

Remarks

Review and reconsideration of this application are respectfully requested.

Claims 1-5, 8-15, 18-23 and 26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7-12 of U.S. Patent No. 6,591,871.

In view of the terminal disclaimer submitted concurrently with this amendment, applicant requests that this rejection be withdrawn.

Claim 2 is rejected under 35 U.S.C. 112 because there is insufficient antecedent basis for the limitation "said polyalkylene terephthalate or said polyalkylene naphthalate" in line 2 of claim 2.

In view of the amendment to claim 2, this rejection can now be withdrawn.

Claim 12 is rejected under 35 U.S.C. 112 because there is insufficient antecedent basis for the limitation "said polyalkylene terephthalate" in line 2 of claim 12.

In view of the amendments to claim 12, this rejection can now be withdrawn.

Claims 1-3, 8-13, 18-21 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito. The Examiner alleges that Ito discloses the recited tubular structure for use with fuel systems which inherently has impermeability properties where the tubular structure comprises using a polyalkylene terephthalate or naphthalate such as polybutylene terephthalate, the inner layer can be formed of a single or multiple layers where elemental carbon or carbon black can be used to provide the inner layer with static dissipating properties, and where a protective cover layer can be provided which can be made of a polyolefin such as polypropylene or polyamides

such as nylons, and the use of the tube for connection to a fuel filler funnel is considered intended use.

Applicant submits that Ito teaches a multilayer wall formed by a fluororesin which has a high level of impermeability and an outer layer of a thermoplastic material such as nylon. The present tubular structure, on the other hand, contains only a single material which may be either a polybutylene terephthalate or polybutylene naphthalate. The Examiner will note that applicant has amended claims 1, 12 and 19 to include the term "consisting essentially of" for the purpose of limiting the tubular structure to a single layer of either polybutylene terephthalate or polybutylene naphthalate, and precluding a multilayer structure such as a fluororesin. Furthermore, the "consisting essentially of" terminology precludes the tubular structure from containing a static electricity dissipating material such as carbon or carbon black. Accordingly, this rejection can be withdrawn.

Claims 1-3, 8, 9, 11-13 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Stieler. The Examiner alleges that Stieler discloses the recited tubular structure for use with fuel systems and vapor recovery which inherently has impermeability properties where the tubular structure comprises using a polyalkylene terephthalate or naphthalate such as polybutylene terephthalate, the inner layer can be formed of a single or multiple layers where elemental carbon or carbon black can be used to provide the inner layer with static dissipating properties, and where a protective cover layer can be provided which can be made of a polyolefin such as polypropylene or polyamides such as nylons, the tube can be made of one or more layers, corrugations can be provided, and the use of the tube for connecting to a fuel filler funnel is considered intended use.

Applicant contends that Stieler teaches single layer and multilayer tubes. The single layer tubes are formed from a thermoplastic material selected from the group consisting of thermoplastic elastomers, polyamides and mixtures thereof. Suitable polyamides are selected from the group consisting of Nylon 11, Nylon 12, Nylon 6 and mixtures thereof, with nylon 12 being preferred. In a second embodiment, the tube of stieler has an inner layer of thermoplastic

material selected from the group consisting of fluoroplastics, thermoplastic polyesters and mixtures thereof, with a fluoroplastic, multi-component system having as its three major components an alkylene fluoropolymer, a material made from a fluoro-olefin monomer or monomers, and a vinyl fluoride. Such materials are reacted by a suitable process to form a terpolymer material. In the third, fourth and fifth embodiments, the tubes or Stieler consist of an inner layer which is integrally bonded to the inner surface of a thick outer layer, the inner layer being a chemically dissimilar, permeation resistant, chemical resistant, fuel resistant thermoplastic material which is essentially a non-polyamide. Preferably, the non-polyamide inner layer is a polyester selected from the group consisting of polyethylene terephthalate, polybutylene terephthalate and mixtures thereof. This is the only mention of a polyalkylene terephthalate and there is no mention at all of a polyalkylene naphthalate. Thus, applicant submits that such teaching of a multiple layer tube which may contain a polyethylene terephthalate or a polybutylene terephthalate does not anticipate the tubular structure of the present invention where the tubular structure has a polybutylene terephthalate or a polybutylene naphthalate wall structure where the polybutylene terephthalate or polybutylene naphthalate material extends throughout the entire wall structure. Thus, it is believed that the tubular structure of the present invention is neither anticipated nor rendered obvious by the teaching of Stieler. Furthermore, The applicant has amended claims 1, 12 and 19 to include the term "consisting essentially of" for the purpose of limiting the tubular structure to a single layer of either polybutylene terephthalate or polybutylene naphthalate, and precluding a multilayer structure such as a fluororesin. Also, the "consisting essentially of" terminology precludes the tubular structure from containing a static electricity dissipating material such as carbon or carbon black. Accordingly, this rejection can be withdrawn.

Claims 1-3, 8, 9, 11-13 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Brunnhofer. The Examiner alleges that Brunnhofer discloses the recited tubular structure for use with fuel systems which inherently has impermeability properties where the tubular structure comprises using a polybutylene terephthalate where the inner layer can be formed of a single or multiple layers, and where a protective cover layer can be provided which can be made of a polyolefin such as polypropylene or polyamides such as nylons, and the use of the tube for connection to a fuel filler fuel is considered intended use.

Applicant contends that Brunnhofer teaches a multilayer tubular member in which the outer layer is formed from a synthetic resin having a hardness equal to at most 0.8 of the hardness on the inner layer and a thickness equal to at most 0.5 of the thickness of the inner layer. Therefore, the tube is formed from two materials, each of which is characteristically different from the other, at least, in their respective hardness properties. The present invention, however is directed to a tubular structure having a polybutylene terephthalate or polybutylene naphthalate wall structure where the polybutylene terephthalate or polybutylene naphthalate extends throughout the entire wall structure. At page 4, lines 24-26, it is specifically stated that the polybutylene terephthalate or polybutylene naphthalate is the sole material to form the wall of the present tubular structure. Therefore, applicant contends that the present tubular structure is neither anticipated nor rendered obvious by Brunnhofer. Also, the "consisting essentially of" terminology precludes the tubular structure from containing a static electricity dissipating material such as carbon or carbon black. Accordingly, this rejection can be withdrawn.

Claims 4, 5, 14, 15, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Walsh. The Examiner alleges that Ito discloses all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer coating. Walsh is cited as disclosing a fuel tube comprising an inner layer which can be made conductive and a protective and protective layer which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It would have been obvious to one skilled in the art to modify the cover layer of Ito to be formed of a chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has different and improved properties.

Applicant submits that Ito has been sufficiently discussed above and that the present invention is clearly distinguished over the patent to Ito. With respect to Walsh, applicant submits the dependent claims 4, 5, 14, 15, 22 and 23 are simply dependent claims which further limit the appropriate independent claims from which the dependent claims depend and that the disclosure

by Walsh adds nothing to the primary reference to Ito which would render the present invention obvious. Therefore, it is believed that this rejection can be withdrawn.

Claims 4, 5, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunnhofer in view of Walsh. The Examiner alleges that Brunnhofer discloses all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer cover. Walsh is cited as disclosing a fuel tube comprising an inner layer which can be made conductive and a protective cover layer which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It. Therefore, would be obvious to one skilled in the art to modify the cover layer of Brunnhofer to be formed of a chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has different and improved properties.

Applicant submits that Brunnhofer has been sufficiently discussed above and that the present invention is clearly distinguished over the patent to Brunnhofer. With respect to Walsh, applicant submits the dependent claims 4, 5, 14 and 15 are simply dependent claims which further limit the appropriate independent claims from which the dependent claims depend and that the disclosure by Walsh adds nothing to the primary reference to Brunnhofer which would render the present invention obvious. Therefore, it is believed that this rejection can be withdrawn.

Claims 6, 7, 16, 17, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Kawazura. The Examiner alleges that Ito discloses all of the recited structure with the exception of providing a tie layer to connect the inner and outer layers formed of anhydride modified linear low density polyethylene. Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. Therefore, to one skilled in the art to modify the hose in Ito by providing a tie layer formed of anhydride modified linear low density polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

Applicant submits that the primary reference to Ito has been sufficiently discussed above and that the present invention is clearly distinguished over the reference to Ito. With respect to Kawazura, applicant suggests that the rejected claims are dependent claims 6, 7, 16, 17, 24 and 25 simply further limit appropriate independent claims and that the disclosure by Kawazura adds nothing to the primary reference to Ito which would render the present invention obvious. Therefore, it is believed that this rejection can be withdrawn.

Claims 6, 7, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunnhofer in view of Kawazura. The Examiner alleges that Brunnhofer discloses all of the recited structure with the exception of providing a tie layer to connect the inner and outer layers formed of anhydride modified linear low density polyethylene. Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. Therefore, to one skilled in the art to modify the hose in Ito by providing a tie layer formed of anhydride modified linear low density polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

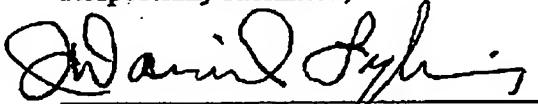
Applicant submits that the primary reference to Brunnhofer has been sufficiently discussed above and that the present invention is clearly distinguished over the reference to Brunnhofer. With respect to Kawazura, applicant suggests that the rejected claims are dependent claims 6, 7, 16, 17, 24 and 25 simply further limit appropriate independent claims and that the disclosure by Kawazura adds nothing to the primary reference to Brunnhofer which would render the present invention obvious. Therefore, it is believed that this rejection can be withdrawn.

In summary, the present invention is similar to the invention disclosed in applicants' issued patent No. 6,591,871 which is the subject of a terminal disclaimer submitted herewith. The difference between applicants' issued patent and the present invention is that the earlier patent claimed a polybutylene terephthalate or polybutylene naphthalate tubular structure which exhibits

fuel and vapor impermeability properties for use as a fuel transport tube, wherein the tubular structure has a first end connected to a conductive fuel filler funnel, and the present invention is directed to a polybutylene terephthalate or polybutylene naphthalate tubular structure where dissipation of static electricity buildup is not required, i.e., in applications other than as a fuel transport tube. In the present invention, the tubular structure is defined as consisting essentially of polybutylene terephthalate or polybutylene naphthalate, wherein said polybutylene terephthalate or said polybutylene naphthalate extends throughout the entire tubular structure from an inner surface thereof to an outer surface thereof. Since the Examiner found the earlier patent to be patentable over the very same references and a terminal disclaimer is submitted herewith to overcome an obviousness-type double patenting-type rejection, it is expected that the present invention is also patentable over the same prior art, particularly, in view of the amendment of the independent claims to define the tube as "consisting essentially of" polybutylene terephthalate or polybutylene naphthalate, wherein said polybutylene terephthalate or said polybutylene naphthalate extends throughout the entire tubular structure from an inner surface thereof to an outer surface thereof.

In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance, and an early indication thereof is earnestly solicited.

Respectfully submitted,



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